



The invention also comprises a method for determining the temperature of the transducer without the use of a temperature sensor, or the like. The method of the invention is achieved by sweeping across a broad frequency range which contains resonant and non-resonant frequencies where  $C_0$  can be measured. A pre-defined frequency range is set independently of the resonance frequency of a specific transducer/blade combination.  $C_0$  of the transducer/blade is measured at several different frequencies within the pre-defined frequency range to ensure that invalid  $C_0$  measurements are disregarded, and the temperature of the transducer is calculated based on valid  $C_0$  measurements.